1. Which stage of combustion in CI engines is characterized by a delay between injection and ignition?

a) Delay period
b) Pre-combustion
c) Main combustion
d) Post-combustion

Answer: a) Delay period
Explanation: The delay period in CI (Compression Ignition) engines refers to the time interval between fuel injection into the combustion chamber and the actual ignition of the fuel due to the heat generated by compression.

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2. What is the term for the knocking sound produced in diesel engines under certain conditions?

a) Compression detonation
b) Diesel clatter
c) Diesel knock
d) Combustion rumble

Answer: c) Diesel knock
Explanation: Diesel knock, also known as combustion knock or diesel rattle, is the sharp metallic noise that occurs when diesel fuel ignites in an uncontrolled manner in the

combustion chamber.

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3. Which of the following is a common knock inhibitor used in diesel engines?

a) Ethanol
b) Lead
c) Water injection
d) Methanol

Answer: c) Water injection
Explanation: Water injection is commonly used as a knock inhibitor in diesel engines. It helps to reduce combustion temperatures and suppresses the formation of nitrogen oxides (NOx), thereby minimizing the occurrence of knocking.

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4. Which type of combustion chamber promotes turbulence for better mixing of air and fuel?

a) Swirl chamber
b) Direct injection chamber
c) Indirect injection chamber
d) Pre-chamber

Answer: a) Swirl chamber

Explanation: Swirl chambers in CI engines are designed to induce swirling motion in the air-fuel mixture, enhancing turbulence and promoting better mixing of air and fuel, leading to more efficient combustion.

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5. What is the primary function of fuel injectors in CI engines?

a) To regulate air intake
b) To atomize and inject fuel into the combustion chamber
c) To ignite the air-fuel mixture
d) To control exhaust emissions

Answer: b) To atomize and inject fuel into the combustion chamber
Explanation: Fuel injectors in CI engines are responsible for atomizing the fuel and injecting it into the combustion chamber at high pressure and in precise quantities, ensuring efficient combustion.

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6. Which type of fuel injection system is commonly used in modern SI engines for improved fuel efficiency and emissions control?

a) MPFI (Multi-Point Fuel Injection)
b) TBI (Throttle Body Injection)
c) CRDI (Common Rail Direct Injection)

d) Carburetion

Answer: a) MPFI (Multi-Point Fuel Injection)
Explanation: MPFI systems are commonly used in modern SI (Spark Ignition) engines to inject fuel into each cylinder individually, allowing for better control over the air-fuel mixture and optimizing combustion for improved fuel efficiency and emissions control.

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7. What is the fundamental principle behind carburetion in SI engines?

a) Injection of fuel at high pressure
b) Mixing of fuel with air to form a combustible mixture
c) Direct injection of fuel into the combustion chamber
d) Vaporization of fuel through heat exchange

Answer: b) Mixing of fuel with air to form a combustible mixture
Explanation: Carburetion involves the process of mixing fuel with air to form a combustible mixture that can be ignited in the combustion chamber of an SI engine.

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8. Which type of carburetor is known for its simplicity and reliability?

a) Solex Carburetor
b) Float Carburetor

c) Downdraft Carburetor
d) Updraft Carburetor

Answer: a) Solex Carburetor
Explanation: Solex carburetors are known for their simple and reliable design. They were widely used in automotive applications, particularly in older vehicles.

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9. What is the purpose of fuel metering in CI engines?

a) To regulate air intake
b) To measure the amount of fuel injected
c) To control exhaust emissions
d) To ignite the air-fuel mixture

Answer: b) To measure the amount of fuel injected
Explanation: Fuel metering in CI engines involves accurately measuring the amount of fuel injected into the combustion chamber, ensuring proper air-fuel ratio for efficient combustion.

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10. Which component of a fuel injection system in SI engines is responsible for delivering fuel to the combustion chamber at the right time and in the right quantity?

a) Fuel pump

b) Fuel injector
c) Throttle body
d) Fuel rail

Answer: b) Fuel injector
Explanation: Fuel injectors in SI engines are responsible for delivering fuel to the combustion chamber at the right time and in the right quantity, ensuring proper combustion.

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